FIBERS SITE GROUP

June 10, 2016

Via Email Electronic Copy

Adalberto Bosque, PhD, MBA, REM, CEA
Response and Remediation Branch
U.S Environmental Protection Agency
City View Plaza II - Suite 7000
48 RD, 165 Km. 1.2
Guaynabo, PR 00968-8069

Subject: RD/RA Monthly Report – May 2016
Fibers Public Supply Wells Site
Guayama, Puerto Rico

Dear Mr. Bosque:

On behalf of the Fibers Public Supply Wells Site Settling Defendants, we are submitting the attached RD/RA Monthly Report prepared pursuant to the Consent Decree (Civil Action No. 92-2486) in the matter of *Unites States v. Anaquest Caribe, Inc. et al*, Section IX, Paragraph 30, Reporting Requirements.

Please feel free to contact Mr. James Kirschner of ARCADIS at (602) 797-4519 or me at (724) 544-4874 if you have any questions or comments regarding this submittal.

Sincerely,

Joe Biss, CHMM
Fibers Site Group Project Coordinator
EHS Support LLC

Copies:

Chief, New York/Caribbean Superfund Branch, Attn. Mel Hauptman- via email only
Ms. Evelyn Rivera-Ocasio, Assistant Regional Counsel – Caribbean Programs – via email only
Chief, Environmental Enforcement Division, U.S. Department of Justice (DOJ #90-11-2-768)
State Remedial Project Manager, Puerto Rico Environmental Quality Board
Ms. Katherine Mishkin, Hydrogeologist, USEPA Superfund Technical Support Section – via email only
Ms. Enid Diaz, Departmento de Recursos Naturales y Ambientales
Mr. Jorge Morales, PRIDCO - via email only
Mr. Joel Melendez Rodriguez, PRIDCO - via email only
Ms. Ana Palou Balsa, PRIDCO – via email only
Mr. Dan Vineyard, Jackson Walker- via email only
James Kirschner, Arcadis - via email only

RD/RA Monthly Report – May 2016
Fibers Public Supply Wells Superfund Site
Guayama, Puerto Rico

(a) Description of actions which have been taken toward achieving compliance with this Decree.

Fibers Air Stripping System

The Fibers groundwater extraction and treatment system (GWETS) was operational for approximately 79% of the time during May 2016. The GWETS had five automated shut downs due to power outages and was then started at the Site the next business day. In addition, it had three shut downs due to equipment faults and maintenance.

A summary of the daily treatment system operating records is presented in Table 1. The GWETS average flow rates are depicted on Figure 1. The GWETS operated at an average flow rate of 239 gallons per minute (gpm) and treated approximately 11.3 million gallons of water in May 2016. To date (since May 1999), approximately 2.96 billion gallons of water have been treated at the Fibers Site.

(b) Summary of all sampling results and tests, and all other data received or generated by Settling Defendants.

Groundwater influent and effluent samples were collected and analyzed in May 2016. A summary of the May 2016 GWETS laboratory analytical results are provided in Table 2. A summary of influent groundwater concentrations of tetrachloroethene (PCE) and total haloethers from the GWETS is depicted on Figures 2 and 3, respectively.

Arcadis U.S. Inc. (Arcadis) performed a data quality assessment (validation) of the laboratory analytical results reported by Pace Analytical Services, Inc. Results are summarized in the Data Review Report included as Attachment 1. A copy of the chain of custody and annotated sample analysis data sheets are provided as an attachment to the Data Review Report. A copy of the complete laboratory analytical report is provided as Attachment 2. A copy of the field notes documenting sample collection information, individual flow rates at the three groundwater extraction wells and treatment system parameters is provided as Attachment 3.

(c) List of all work plans, plans and other deliverables completed and submitted.

None for this reporting period

(d) Description of all actions, including, but not limited to, data collection and implementation of work plans, which are scheduled for the next six weeks.

An Operations, Maintenance, and Monitoring Manual is anticipated to be submitted to the United States Environmental Protection Agency (USEPA) in June 2016.

A Notice of Completion Report, with stamped engineering as-built construction drawings, is anticipated to be submitted to the USEPA in June 2016.

The first semi-annual groundwater monitoring and sampling event of 2016 was completed at the end of May 2016. Upon receipt of completed data packages from the laboratory, analytical data will undergo validation. Once validated, the data will be submitted with the first semi-annual groundwater monitoring and sampling report for 2016.

Environmental Resource Technologies (ERTEC) completed Phase 2 and Phase 3 subsurface soil investigations at the Baxter-Guayama facility on the Fibers Site in October 2015 and February 2016. Upon completion of the data validation, a summary of results from ERTEC's Phase 2 and Phase 3 subsurface investigations will be included in a subsequent monthly report.

(e) Information regarding the percentage completion, unresolved delays encountered or anticipated.

Construction Activities – 100% complete.
System Start-Up – 100% complete.
Start-Up Performance Monitoring – 100% complete.
Long-Term Operation & Maintenance Period – In progress.

(f) List of any modification to work plans or other schedules the Settling Defendants have proposed.

None.

(g) Description of activities undertaken in support of the Community Relations Plan.

No support activities have been requested for the next planning period.

(h) Actions undertaken to address outside parties concerns.

No concerns from outside parties were encountered during this reporting period.

Tables

Table 1
Summary of Daily Treatment System Operating Records - May 2016
Fibers Public Supply Wells Superfund Site
Guayama, Puerto Rico

Recording Date	Influent Flow (gpm) [1]	Effluent Flow (gpm) [2]	RW-2 (gpm) [3]	RW-4 (gpm) [4]	RW-5 (gpm) [5]	pH [6]	Comments
5/1/2016	305	311	116	140	47	8.0	
5/2/2016	302	298	115	141	48	8.0	
5/3/2016	303	312	114	140	49	8.0	Refilled biocide tank.
5/4/2016	177	185	68	82	28	8.1	Started system after TP-202A fault.
5/5/2016	304	324	115	140	48	8.0	
5/6/2016	305	325	115	141	48	8.0	
5/7/2016	310	319	115	139	49	8.0	
5/8/2016	298	299	114	141	49	8.0	
5/9/2016	290	291	110	134	46	8.0	GWETS maintenance.
5/10/2016	303	340	116	140	47	8.0	
5/11/2016	300	320	115	140	47	8.0	
5/12/2016	87	81	35	41	15	8.2	GWETS maintenance.
5/13/2016	13	15	7	7	3	8.3	GWETS maintenance.
5/14/2016	0	0	0	0	0	8.0	
5/15/2016	0	0	0	0	0	8.0	
5/16/2016	153	159	39	88	30	8.1	Started system after power loss.
5/17/2016	289	290	110	134	45	8.1	GWETS maintenance.
5/18/2016	188	198	73	89	29	8.0	Started system after power loss.
5/19/2016	25	28	12	14	5	7.9	
5/20/2016	166	179	62	80	28	8.0	Started system after power loss.
5/21/2016	301	320	110	145	47	8.1	
5/22/2016	302	317	111	145	47	8.1	
5/23/2016	300	320	111	145	47	8.1	
5/24/2016	275	294	102	133	43	8.1	Started system after power loss.
5/25/2016	275	279	96	134	40	8.0	Started system after power loss.
5/26/2016	301	321	110	146	46	8.1	Refilled biocide tank.
5/27/2016	304	314	113	145	44	8.1	
5/28/2016	305	327	115	146	46	8.1	
5/29/2016	308	327	114	146	46	8.1	
5/30/2016	308	328	115	145	46	8.1	
5/31/2016	310	327	116	145	46	8.1	
Monthly Average	239	250	89	113	37	8.0	

Notes:

Flow rates are 24-hour daily average.

gpm = gallons per minute.

[1] = Recorded from instrument FIT-101.

[2] = Recorded from instrument FIT-301.

[3] = Recorded from instrument RW2 FIT.

[4] = Recorded from instrument RW4 FIT.

[5] = Recorded from instrument RW5 FIT.

[6] = Recorded from instrument pHIT-201A.

Table 2
Summary of Treatment System Laboratory Analytical Results
May 2016
Fibers Public Supply Wells Superfund Site
Guayama, Puerto Rico

Fibers Groundwater Extraction and Treatment System

Laboratory analytical results for water samples collected at the influent and effluent sample tap locations from the Fibers Groundwater Extraction and Treatment System on May 2, 2016 are presented below. The system average effluent flow rate at the time the samples were collected was 312 gallons per minute (gpm). Sample results indicate that the treatment system is operating in compliance with operating parameters pursuant to the Consent Decree.

	VOC (µg/L)			
	Sample ID			
Compound	EFF-20160502	EFFDUP-20160502	INF-20160502	TB-20160502
Tetrachloroethene	ND	ND	7.1	ND
Enflurane	ND	ND	1.9	ND
Haloether 229	ND	ND	39.1	ND
Haloether 406	ND	ND	1.2	ND
Haloether 508	ND	ND	59.3	ND
Haloether 528	ND	ND	1.6	ND
Halomar	ND	ND	1.3	ND
Isoflurane	ND	ND	145	ND
Total Haloethers	ND	ND	249	ND
Acetone	12.4	15.5	7.5	ND
Other VOC	ND	ND	ND	ND

Notes:
VOC = volatile organic compounds.
µg/L = micrograms per liter.
EFF = effluent sample.
EFFDUP = effluent duplicate sample.
INF = influent sample.
TB = trip blank.
ND = not detected at or above laboratory reporting limit.

Figures

Figure 1
Fibers Public Supply Wells Superfund Site
Summary of Treatment System Flow Rates

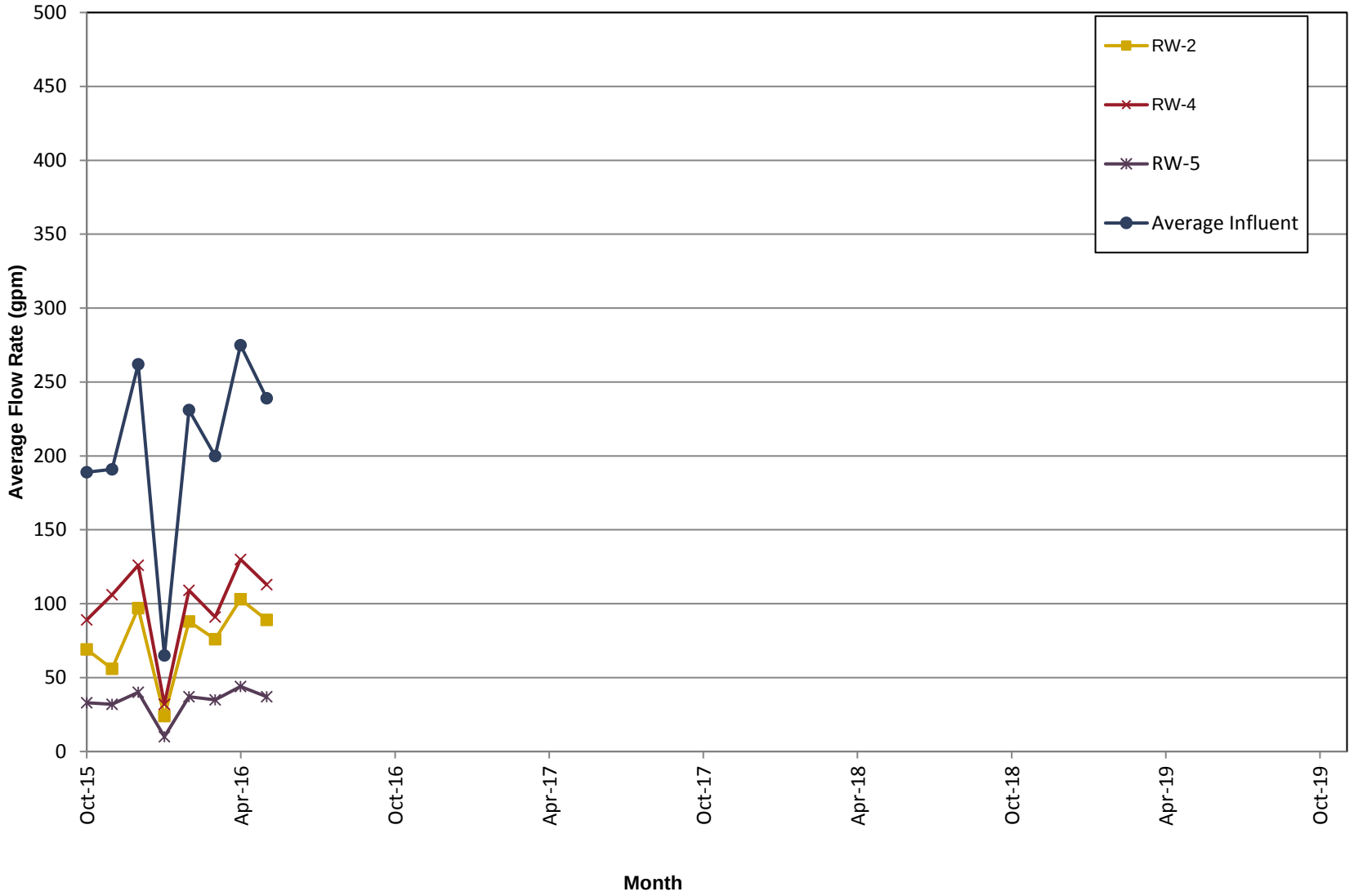


Figure 2
Fibers Public Supply Wells Superfund Site
Treatment System Influent -
Tetrachloroethene (PCE) Concentrations

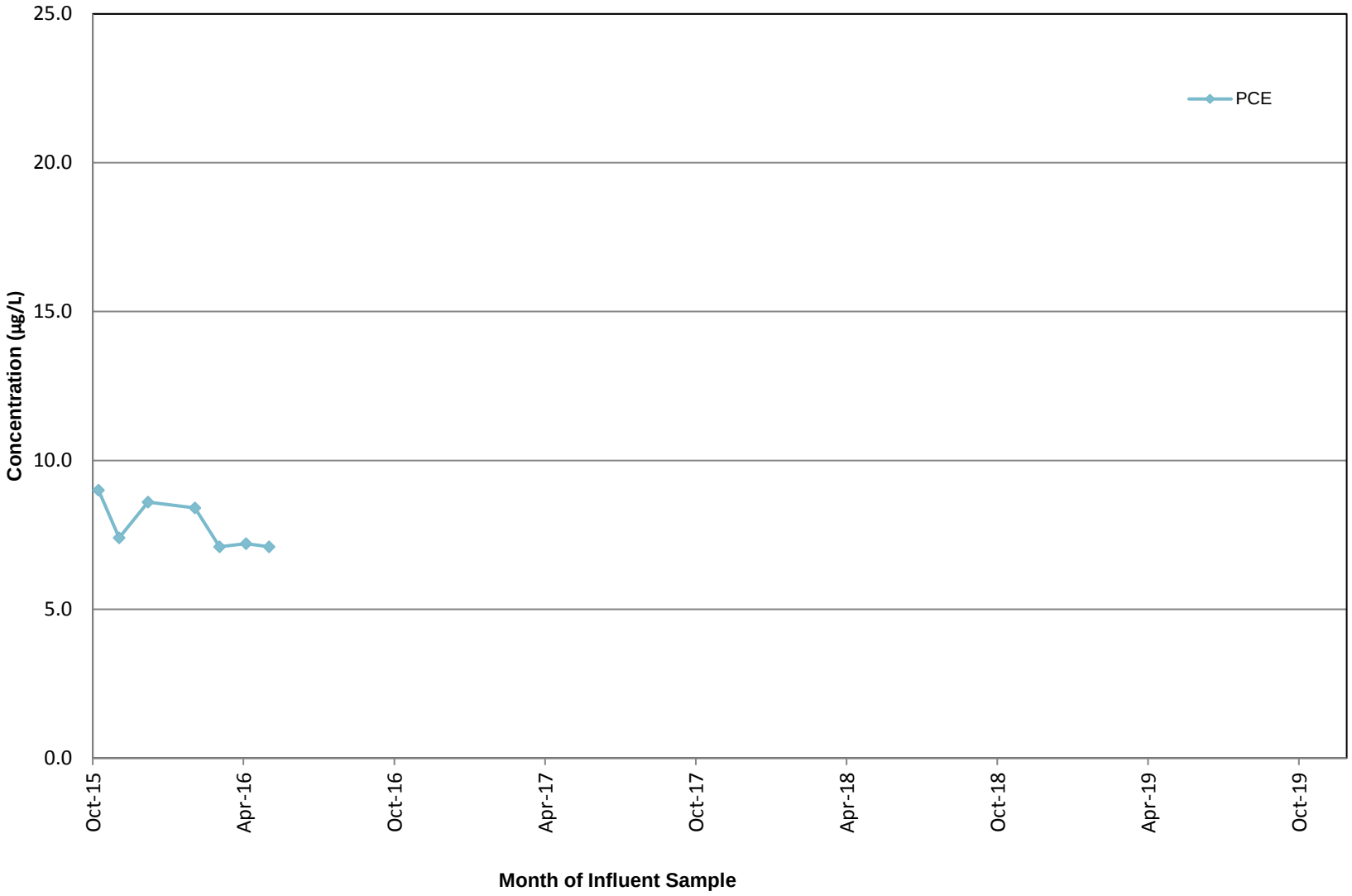
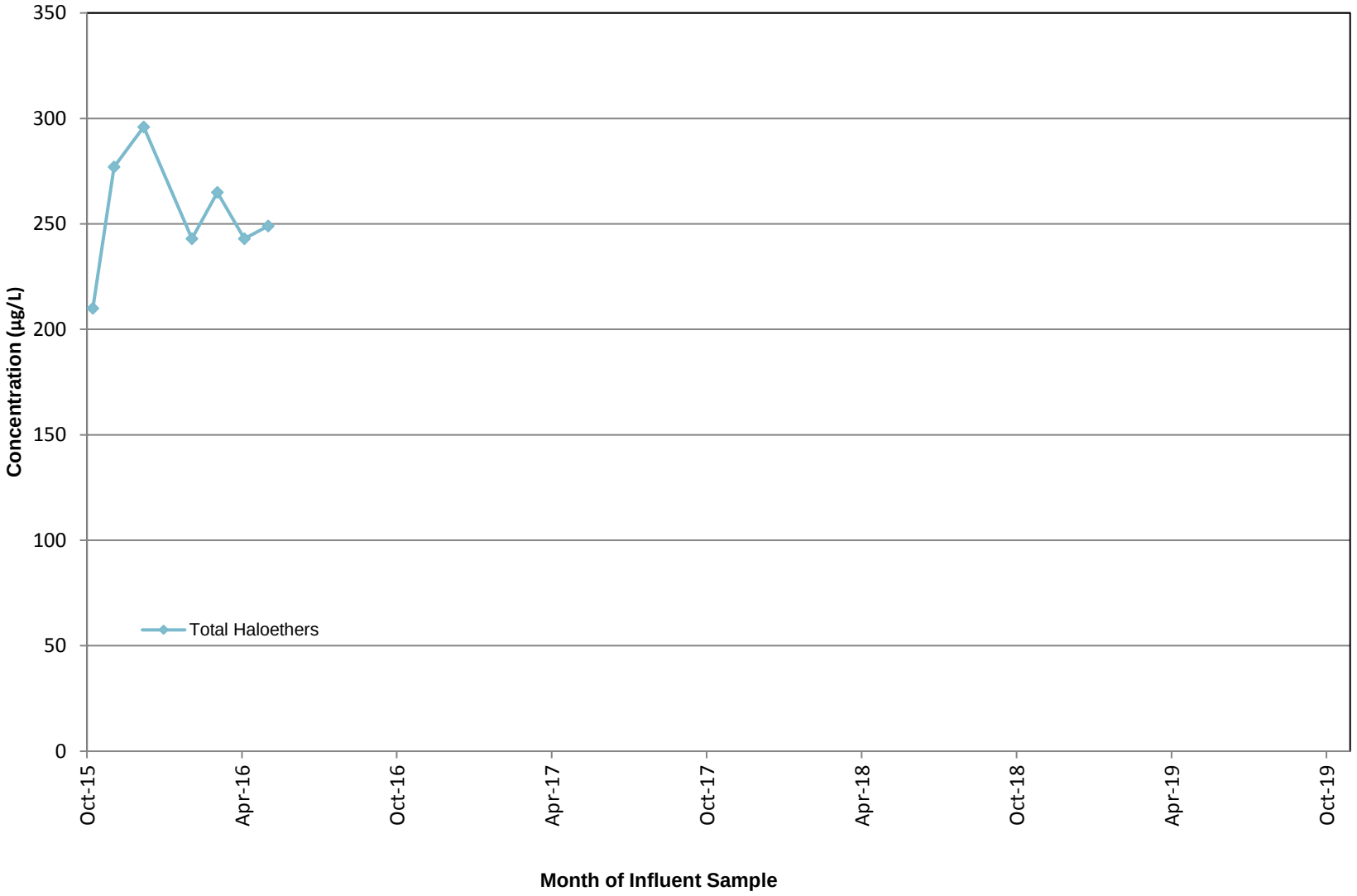


Figure 3
Fibers Public Supply Wells Superfund Site
Treatment System Influent -
Total Haloethers Concentrations



Attachment 1
Data Review Report

Fibers Group

Data Review

GUAYAMA, PUERTO RICO

Volatiles Analyses

SDG #2036032
Analyses Performed By:
Pace Analytical Services, Inc.
New Orleans, Louisiana

Report: #25655R
Review Level: Tier II
Project: CO001911.0003.1605A

SUMMARY

This data quality assessment summarizes the review of Sample Delivery Group (SDG) #2036032 for samples collected in association with the Fibers Group Site. The review was conducted as a Tier II evaluation and included review of data package completeness. Only analytical data associated with constituents of concern were reviewed for this validation. Included with this assessment are the validation annotated sample result sheets and chain of custody. Analyses were performed on the following samples:

Sample ID	Lab ID	Matrix	Sample Collection Date	Parent Sample	Analysis				
					VOC	SVOC	TPH	MET	MISC
TB-20160502	2036032001	Water	05/02/2016		X				
INF-20160502	2036032002	Water	05/02/2016		X				
EFF-20160502	2036032003	Water	05/02/2016		X				
EFFDUP-20160502	2036032004	Water	05/02/2016	EFF-20160502	X				

Note:

1. The matrix spike/matrix spike duplicate (MS/MSD) analysis was performed on sample location EFF-20160502.

ORGANIC ANALYSIS INTRODUCTION

Analyses were performed according to United States Environmental Protection Agency (USEPA) SW-846 Method 8260. Data were reviewed in accordance with USEPA National Functional Guidelines of October 1999.

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in the analytical method. It is assumed that the data package represents the best efforts of the laboratory and had already been subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with USEPA National Functional Guidelines:

- Concentration (C) Qualifiers

  U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.

  B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.

- Quantitation (Q) Qualifiers

  E The compound was quantitated above the calibration range.

  D Concentration is based on a diluted sample analysis.

- Validation Qualifiers

  J The compound was positively identified; however, the associated numerical value is an estimated concentration only.

  UJ The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.

  JN The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification. The associated numerical value is an estimated concentration only.

  UB Compound considered non-detect at the listed value due to associated blank contamination.

  N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.

  R The sample results are rejected.

Two facts should be noted by all data users. First, the "R" flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. "R" values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is

that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

VOLATILE ORGANIC COMPOUND (VOC) ANALYSES

1. Holding Times

The specified holding times for the following methods are presented in the following table.

Method	Matrix	Holding Time	Preservation
SW-846 8260	Water	14 days from collection to analysis	Cool to <6 °C; preserved to a pH of less than 2 s.u.
	Soil	48 hours from collection to extraction and 14 days from extraction to analysis	Cool to <6 °C.

s.u. Standard units

All samples were analyzed within acceptable holding times.

2. Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the reporting limit (RL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Compounds were not detected above the RL in the associated blanks; therefore detected sample results were not associated with blank contamination.

3. Surrogates/System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. VOC analysis requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

All surrogate recoveries were within control limits.

4. Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on sample locations where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

Sample locations associated with the MS/MSD exhibiting recoveries outside of the control limits are presented in the following table.

Sample Locations	Compound	MS Recovery	MSD Recovery
EFF-20160502	Styrene	<10%	<10%
	Acrolein		
	m&p-Xylene		
	o-Xylene	<LL but >10%	<10%
	cis-1,3-Dichloropropene	AC	<LL but >10%
	Toluene		
	Vinyl chloride		

AC Acceptable

The criteria used to evaluate the MS/MSD recoveries are presented in the following table. In the case of an MS/MSD deviation, the sample results are qualified as documented in the table below.

Control Limit	Sample Result	Qualification
> the upper control limit (UL)	Non-detect	No Action
	Detect	J
< the lower control limit (LL) but > 10%	Non-detect	UJ
	Detect	J
< 10%	Non-detect	R
	Detect	J
Parent sample concentration > four times the MS/MSD spiking solution concentration.	Detect	No Action
	Non-detect	

Sample locations associated with MS/MSD recoveries exhibiting an RPD greater than of the control limit presented in the following table.

Sample Locations	Compound
EFF-20160502	1,1-Dichloroethene
	Carbon disulfide
	cis-1,3-Dichloropropene
	Ethylbenzene
	o-Xylene
	Toluene
	Vinyl chloride

The criteria used to evaluate the RPD between the MS/MSD recoveries are presented in the following table. In the case of an RPD deviation, the sample results are qualified as documented in the table below.

Control Limit	Sample Result	Qualification
> UL	Non-detect	UJ
	Detect	J

5. Laboratory Control Sample (LCS) Analysis

The LCS analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

All compounds associated with the LCS analysis exhibited recoveries within the control limits.

6. Field Duplicate Analysis

Field duplicate analysis is used to assess the precision and accuracy of the field sampling procedures and analytical method. A control limit of 50% for water matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices.

Results for duplicate samples are summarized in the following table.

Sample ID/Duplicate ID	Compound	Sample Result	Duplicate Result	RPD
EFF-20160502 / EFFDUP-20160502	Acetone	12.4	15.6	AC

AC Acceptable

The calculated RPDs between the parent sample and field duplicate were acceptable.

7. System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

DATA VALIDATION CHECKLIST FOR VOCs

VOCs: SW-846 8260	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier II Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X		X	
B. Equipment/Field blanks					X
C. Trip blanks		X		X	
Laboratory Control Sample (LCS) Accuracy (%R)		X		X	
Laboratory Control Sample Duplicate (LCSD) %R					X
LCS/LCSD Precision (RPD)					X
Matrix Spike (MS) %R		X	X		
Matrix Spike Duplicate (MSD) %R		X	X		
MS/MSD Precision RPD		X	X		
Field/Laboratory Duplicate Sample RPD		X		X	
Surrogate Spike %R		X		X	
Dilution Factor		X		X	
Moisture Content					X

%R Percent recovery
RPD Relative percent difference
%RSD Relative standard deviation
%D Percent difference

VALIDATION PERFORMED BY: Joseph C. Houser

SIGNATURE: 

DATE: May 30, 2016

PEER REVIEW: Jeffrey L. Davin

DATE: May 31, 2016

CHAIN OF CUSTODY/
ANNOTATED SAMPLE ANALYSIS DATA SHEETS

Pace Analytical®
www.pacelabs.com

Pace Analytical Services, Inc.
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

ANALYTICAL RESULTS

Project: Fibers Public Supply Wells
Pace Project No.: 2036032

Sample: TB-20160502 **Lab ID: 2036032001** Collected: 05/02/16 00:00 Received: 05/03/16 08:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Acetone	ND	ug/L	4.0	1		05/04/16 14:01	67-64-1	
Acrolein	ND	ug/L	8.0	1		05/04/16 14:01	107-02-8	
Acrylonitrile	ND	ug/L	4.0	1		05/04/16 14:01	107-13-1	
Benzene	ND	ug/L	1.0	1		05/04/16 14:01	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		05/04/16 14:01	75-27-4	
Bromoform	ND	ug/L	1.0	1		05/04/16 14:01	75-25-2	
Bromomethane	ND	ug/L	1.0	1		05/04/16 14:01	74-83-9	
2-Butanone (MEK)	ND	ug/L	2.0	1		05/04/16 14:01	78-93-3	
Carbon disulfide	ND	ug/L	1.0	1		05/04/16 14:01	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		05/04/16 14:01	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		05/04/16 14:01	108-90-7	
Chloroethane	ND	ug/L	1.0	1		05/04/16 14:01	75-00-3	
Chloroform	ND	ug/L	1.0	1		05/04/16 14:01	67-66-3	
Chloromethane	ND	ug/L	1.0	1		05/04/16 14:01	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	1		05/04/16 14:01	124-48-1	
Dibromomethane	ND	ug/L	1.0	1		05/04/16 14:01	74-95-3	
1,1-Dichloroethane	ND	ug/L	1.0	1		05/04/16 14:01	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		05/04/16 14:01	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		05/04/16 14:01	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		05/04/16 14:01	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		05/04/16 14:01	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		05/04/16 14:01	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		05/04/16 14:01	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		05/04/16 14:01	10061-02-6	
Enflurane	ND	ug/L	1.0	1		05/04/16 14:01	13838-16-9	
Ethylbenzene	ND	ug/L	1.0	1		05/04/16 14:01	100-41-4	
Haloether 229	ND	ug/L	1.0	1		05/04/16 14:01		
Haloether 406	ND	ug/L	1.0	1		05/04/16 14:01		
Haloether 421	ND	ug/L	1.0	1		05/04/16 14:01		
Haloether 427	ND	ug/L	1.0	1		05/04/16 14:01		
Haloether 428	ND	ug/L	1.0	1		05/04/16 14:01		
Haloether 508	ND	ug/L	1.0	1		05/04/16 14:01		
Haloether 528	ND	ug/L	1.0	1		05/04/16 14:01		
Halomar	ND	ug/L	1.0	1		05/04/16 14:01		
2-Hexanone	ND	ug/L	2.0	1		05/04/16 14:01	591-78-6	
Isoflurane	ND	ug/L	1.0	1		05/04/16 14:01		
Methoxyflurane	ND	ug/L	1.0	1		05/04/16 14:01	76-38-0	
Methylene Chloride	ND	ug/L	5.0	1		05/04/16 14:01	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2.0	1		05/04/16 14:01	108-10-1	
Styrene	ND	ug/L	1.0	1		05/04/16 14:01	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		05/04/16 14:01	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		05/04/16 14:01	127-18-4	
Toluene	ND	ug/L	1.0	1		05/04/16 14:01	108-88-3	
Total Haloether	ND	ug/L	1.0	1		05/04/16 14:01		
1,1,1-Trichloroethane	ND	ug/L	1.0	1		05/04/16 14:01	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		05/04/16 14:01	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		05/04/16 14:01	79-01-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical®
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St. Rose, LA 70087
(504)469-0333

ANALYTICAL RESULTS

Project: Fibers Public Supply Wells
Pace Project No.: 2036032

Sample: TB-20160502 **Lab ID: 2036032001** Collected: 05/02/16 00:00 Received: 05/03/16 08:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Trichlorofluoromethane	ND	ug/L	1.0	1		05/04/16 14:01	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		05/04/16 14:01	96-18-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0	1		05/04/16 14:01	76-13-1	
Vinyl chloride	ND	ug/L	1.0	1		05/04/16 14:01	75-01-4	
m&p-Xylene	ND	ug/L	2.0	1		05/04/16 14:01	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		05/04/16 14:01	95-47-6	
Surrogates								
Toluene-d8 (S)	95	%.	79-119	1		05/04/16 14:01	2037-26-5	
4-Bromofluorobenzene (S)	103	%.	68-124	1		05/04/16 14:01	460-00-4	
Dibromofluoromethane (S)	103	%.	72-126	1		05/04/16 14:01	1868-53-7	

Sample: INF-20160502 **Lab ID: 2036032002** Collected: 05/02/16 07:57 Received: 05/03/16 08:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Acetone	**7.5**	ug/L	4.0	1		05/04/16 14:19	67-64-1	
Acrolein	ND	ug/L	8.0	1		05/04/16 14:19	107-02-8	
Acrylonitrile	ND	ug/L	4.0	1		05/04/16 14:19	107-13-1	
Benzene	ND	ug/L	1.0	1		05/04/16 14:19	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		05/04/16 14:19	75-27-4	
Bromoform	ND	ug/L	1.0	1		05/04/16 14:19	75-25-2	
Bromomethane	ND	ug/L	1.0	1		05/04/16 14:19	74-83-9	
2-Butanone (MEK)	ND	ug/L	2.0	1		05/04/16 14:19	78-93-3	
Carbon disulfide	ND	ug/L	1.0	1		05/04/16 14:19	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		05/04/16 14:19	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		05/04/16 14:19	108-90-7	
Chloroethane	ND	ug/L	1.0	1		05/04/16 14:19	75-00-3	
Chloroform	ND	ug/L	1.0	1		05/04/16 14:19	67-66-3	
Chloromethane	ND	ug/L	1.0	1		05/04/16 14:19	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	1		05/04/16 14:19	124-48-1	
Dibromomethane	ND	ug/L	1.0	1		05/04/16 14:19	74-95-3	
1,1-Dichloroethane	ND	ug/L	1.0	1		05/04/16 14:19	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		05/04/16 14:19	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		05/04/16 14:19	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		05/04/16 14:19	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		05/04/16 14:19	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		05/04/16 14:19	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		05/04/16 14:19	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		05/04/16 14:19	10061-02-6	
Enflurane	**1.9**	ug/L	1.0	1		05/04/16 14:19	13838-16-9	
Ethylbenzene	ND	ug/L	1.0	1		05/04/16 14:19	100-41-4	
Haloether 229	**39.1**	ug/L	1.0	1		05/04/16 14:19		
Haloether 406	**1.2**	ug/L	1.0	1		05/04/16 14:19		
Haloether 421	ND	ug/L	1.0	1		05/04/16 14:19		
Haloether 427	ND	ug/L	1.0	1		05/04/16 14:19		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

ANALYTICAL RESULTS

Project: Fibers Public Supply Wells
Pace Project No.: 2036032

Sample: INF-20160502 **Lab ID: 2036032002** Collected: 05/02/16 07:57 Received: 05/03/16 08:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Haloether 428	ND	ug/L	1.0	1		05/04/16 14:19		
Haloether 508	**59.3**	ug/L	1.0	1		05/04/16 14:19		
Haloether 528	**1.6**	ug/L	1.0	1		05/04/16 14:19		
Halomar	**1.3**	ug/L	1.0	1		05/04/16 14:19		
2-Hexanone	ND	ug/L	2.0	1		05/04/16 14:19	591-78-6	
Isoflurane	**145**	ug/L	1.0	1		05/04/16 14:19		
Methoxyflurane	ND	ug/L	1.0	1		05/04/16 14:19	76-38-0	
Methylene Chloride	ND	ug/L	5.0	1		05/04/16 14:19	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2.0	1		05/04/16 14:19	108-10-1	
Styrene	ND	ug/L	1.0	1		05/04/16 14:19	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		05/04/16 14:19	79-34-5	
Tetrachloroethene	**7.1**	ug/L	1.0	1		05/04/16 14:19	127-18-4	
Toluene	ND	ug/L	1.0	1		05/04/16 14:19	108-88-3	
Total Haloether	**249**	ug/L	1.0	1		05/04/16 14:19		
1,1,1-Trichloroethane	ND	ug/L	1.0	1		05/04/16 14:19	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		05/04/16 14:19	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		05/04/16 14:19	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		05/04/16 14:19	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		05/04/16 14:19	96-18-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0	1		05/04/16 14:19	76-13-1	
Vinyl chloride	ND	ug/L	1.0	1		05/04/16 14:19	75-01-4	
m&p-Xylene	ND	ug/L	2.0	1		05/04/16 14:19	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		05/04/16 14:19	95-47-6	
Surrogates								
Toluene-d8 (S)	100	%.	79-119	1		05/04/16 14:19	2037-26-5	
4-Bromofluorobenzene (S)	106	%.	68-124	1		05/04/16 14:19	460-00-4	
Dibromofluoromethane (S)	101	%.	72-126	1		05/04/16 14:19	1868-53-7	

Sample: EFF-20160502 **Lab ID: 2036032003** Collected: 05/02/16 08:15 Received: 05/03/16 08:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Acetone	**12.4**	ug/L	4.0	1		05/04/16 11:04	67-64-1	
Acrolein	~~ND~~	~~ug/L~~	~~8.0~~	~~1~~		~~05/04/16 11:04~~	~~107-02-8~~	~~M1~~ R
Acrylonitrile	ND	ug/L	4.0	1		05/04/16 11:04	107-13-1	
Benzene	ND	ug/L	1.0	1		05/04/16 11:04	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		05/04/16 11:04	75-27-4	
Bromoform	ND	ug/L	1.0	1		05/04/16 11:04	75-25-2	
Bromomethane	ND	ug/L	1.0	1		05/04/16 11:04	74-83-9	
2-Butanone (MEK)	ND	ug/L	2.0	1		05/04/16 11:04	78-93-3	
Carbon disulfide	ND	ug/L	1.0	1		05/04/16 11:04	75-15-0	~~R1~~ UJ
Carbon tetrachloride	ND	ug/L	1.0	1		05/04/16 11:04	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		05/04/16 11:04	108-90-7	
Chloroethane	ND	ug/L	1.0	1		05/04/16 11:04	75-00-3	
Chloroform	ND	ug/L	1.0	1		05/04/16 11:04	67-66-3	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

ANALYTICAL RESULTS

Project: Fibers Public Supply Wells
Pace Project No.: 2036032

Sample: EFF-20160502 **Lab ID: 2036032003** Collected: 05/02/16 08:15 Received: 05/03/16 08:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Chloromethane	ND	ug/L	1.0	1		05/04/16 11:04	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	1		05/04/16 11:04	124-48-1	
Dibromomethane	ND	ug/L	1.0	1		05/04/16 11:04	74-95-3	
1,1-Dichloroethane	ND	ug/L	1.0	1		05/04/16 11:04	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		05/04/16 11:04	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		05/04/16 11:04	75-35-4	~~R1~~ UJ
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		05/04/16 11:04	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		05/04/16 11:04	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		05/04/16 11:04	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		05/04/16 11:04	10061-01-5	~~M1,R1~~ UJ
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		05/04/16 11:04	10061-02-6	
Enflurane	ND	ug/L	1.0	1		05/04/16 11:04	13838-16-9	
Ethylbenzene	ND	ug/L	1.0	1		05/04/16 11:04	100-41-4	~~R1~~ UJ
Haloether 229	ND	ug/L	1.0	1		05/04/16 11:04		
Haloether 406	ND	ug/L	1.0	1		05/04/16 11:04		
Haloether 421	ND	ug/L	1.0	1		05/04/16 11:04		
Haloether 427	ND	ug/L	1.0	1		05/04/16 11:04		
Haloether 428	ND	ug/L	1.0	1		05/04/16 11:04		
Haloether 508	ND	ug/L	1.0	1		05/04/16 11:04		
Haloether 528	ND	ug/L	1.0	1		05/04/16 11:04		
Halomar	ND	ug/L	1.0	1		05/04/16 11:04		
2-Hexanone	ND	ug/L	2.0	1		05/04/16 11:04	591-78-6	
Isoflurane	ND	ug/L	1.0	1		05/04/16 11:04		
Methoxyflurane	ND	ug/L	1.0	1		05/04/16 11:04	76-38-0	
Methylene Chloride	ND	ug/L	5.0	1		05/04/16 11:04	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2.0	1		05/04/16 11:04	108-10-1	
Styrene	~~ND~~	~~ug/L~~	~~1.0~~	~~1~~		~~05/04/16 11:04~~	~~100-42-5~~	~~M1~~ R
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		05/04/16 11:04	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		05/04/16 11:04	127-18-4	
Toluene	ND	ug/L	1.0	1		05/04/16 11:04	108-88-3	~~M1,R1~~ UJ
Total Haloether	ND	ug/L	1.0	1		05/04/16 11:04		
1,1,1-Trichloroethane	ND	ug/L	1.0	1		05/04/16 11:04	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		05/04/16 11:04	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		05/04/16 11:04	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		05/04/16 11:04	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		05/04/16 11:04	96-18-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0	1		05/04/16 11:04	76-13-1	
Vinyl chloride	ND	ug/L	1.0	1		05/04/16 11:04	75-01-4	~~M1,R1~~ UJ
m&p-Xylene	~~ND~~	~~ug/L~~	~~2.0~~	~~1~~		~~05/04/16 11:04~~	~~179601-23-1~~	~~M1~~ R
o-Xylene	~~ND~~	~~ug/L~~	~~1.0~~	~~1~~		~~05/04/16 11:04~~	~~95-47-6~~	~~M1,R1~~ R
Surrogates								
Toluene-d8 (S)	93	%.	79-119	1		05/04/16 11:04	2037-26-5	
4-Bromofluorobenzene (S)	104	%.	68-124	1		05/04/16 11:04	460-00-4	
Dibromofluoromethane (S)	102	%.	72-126	1		05/04/16 11:04	1868-53-7	

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

ANALYTICAL RESULTS

Project: Fibers Public Supply Wells
Pace Project No.: 2036032

Sample: EFFDUP-20160502 **Lab ID: 2036032004** Collected: 05/02/16 08:15 Received: 05/03/16 08:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Acetone	**15.6**	ug/L	4.0	1		05/04/16 14:37	67-64-1	
Acrolein	ND	ug/L	8.0	1		05/04/16 14:37	107-02-8	
Acrylonitrile	ND	ug/L	4.0	1		05/04/16 14:37	107-13-1	
Benzene	ND	ug/L	1.0	1		05/04/16 14:37	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		05/04/16 14:37	75-27-4	
Bromoform	ND	ug/L	1.0	1		05/04/16 14:37	75-25-2	
Bromomethane	ND	ug/L	1.0	1		05/04/16 14:37	74-83-9	
2-Butanone (MEK)	ND	ug/L	2.0	1		05/04/16 14:37	78-93-3	
Carbon disulfide	ND	ug/L	1.0	1		05/04/16 14:37	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		05/04/16 14:37	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		05/04/16 14:37	108-90-7	
Chloroethane	ND	ug/L	1.0	1		05/04/16 14:37	75-00-3	
Chloroform	ND	ug/L	1.0	1		05/04/16 14:37	67-66-3	
Chloromethane	ND	ug/L	1.0	1		05/04/16 14:37	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	1		05/04/16 14:37	124-48-1	
Dibromomethane	ND	ug/L	1.0	1		05/04/16 14:37	74-95-3	
1,1-Dichloroethane	ND	ug/L	1.0	1		05/04/16 14:37	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		05/04/16 14:37	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		05/04/16 14:37	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		05/04/16 14:37	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		05/04/16 14:37	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		05/04/16 14:37	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		05/04/16 14:37	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		05/04/16 14:37	10061-02-6	
Enflurane	ND	ug/L	1.0	1		05/04/16 14:37	13838-16-9	
Ethylbenzene	ND	ug/L	1.0	1		05/04/16 14:37	100-41-4	
Haloether 229	ND	ug/L	1.0	1		05/04/16 14:37		
Haloether 406	ND	ug/L	1.0	1		05/04/16 14:37		
Haloether 421	ND	ug/L	1.0	1		05/04/16 14:37		
Haloether 427	ND	ug/L	1.0	1		05/04/16 14:37		
Haloether 428	ND	ug/L	1.0	1		05/04/16 14:37		
Haloether 508	ND	ug/L	1.0	1		05/04/16 14:37		
Haloether 528	ND	ug/L	1.0	1		05/04/16 14:37		
Halomar	ND	ug/L	1.0	1		05/04/16 14:37		
2-Hexanone	ND	ug/L	2.0	1		05/04/16 14:37	591-78-6	
Isoflurane	ND	ug/L	1.0	1		05/04/16 14:37		
Methoxyflurane	ND	ug/L	1.0	1		05/04/16 14:37	76-38-0	
Methylene Chloride	ND	ug/L	5.0	1		05/04/16 14:37	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2.0	1		05/04/16 14:37	108-10-1	
Styrene	ND	ug/L	1.0	1		05/04/16 14:37	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		05/04/16 14:37	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		05/04/16 14:37	127-18-4	
Toluene	ND	ug/L	1.0	1		05/04/16 14:37	108-88-3	
Total Haloether	ND	ug/L	1.0	1		05/04/16 14:37		
1,1,1-Trichloroethane	ND	ug/L	1.0	1		05/04/16 14:37	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		05/04/16 14:37	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		05/04/16 14:37	79-01-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

ANALYTICAL RESULTS

Project: Fibers Public Supply Wells
Pace Project No.: 2036032

Sample: EFFDUP-20160502 **Lab ID: 2036032004** Collected: 05/02/16 08:15 Received: 05/03/16 08:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Trichlorofluoromethane	ND	ug/L	1.0	1		05/04/16 14:37	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		05/04/16 14:37	96-18-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0	1		05/04/16 14:37	76-13-1	
Vinyl chloride	ND	ug/L	1.0	1		05/04/16 14:37	75-01-4	
m&p-Xylene	ND	ug/L	2.0	1		05/04/16 14:37	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		05/04/16 14:37	95-47-6	
Surrogates								
Toluene-d8 (S)	92	%.	79-119	1		05/04/16 14:37	2037-26-5	
4-Bromofluorobenzene (S)	103	%.	68-124	1		05/04/16 14:37	460-00-4	
Dibromofluoromethane (S)	100	%.	72-126	1		05/04/16 14:37	1868-53-7	

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CHAIN-OF-CUSTODY

The Chain-of-Custody is a LEGAL

WO# : 2036032

2036032

Page : 1 Of 1

Section A — Required Client Information:

Company:	ARCADIS U.S., Inc.
Address:	410 North 44th St., Suite 1000
	Phoenix, AZ 85008
Email To:	david.howard@arcadis-us.com
Phone:	602.797.4518 Fax:
Requested Due Date:	

Section B — Required Project Information:

Report To:	David Howard
Copy To:	Cassandra McCloud
	cassandra.mccloud@arcadis-us.com
Purchase Order #:	CO001911.0003 1602A
Project Name:	Fibers Public Supply Wells
Project #:	CO001911.0003 1602A

Section C — Invoice Information:

Attention:	Accounts Payable
Company Name:	ARCADIS
Address:	
Pace Quote:	
Pace Project Manager:	justin.stock@pacelabs.com
Pace Profile #:	103746

Regulatory Agency: CERCLA

State / Location: PR

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analyses Test Y/N	EPA 8260B Haloethers	SM 2320B Alkalinity	SM 5310B TOC	ASTM D516,90.02 Sulfate	EPA 6010 Dissolved Metals (Fe, Mn)	EPA 6010 Total Metals (Fe, Mn)	RSK 175 Methane	EPA 300.0 Chloride	Residual Chlorine (Y/N)	Comments
1	TB-20160502	WT	G			05/02/16	LAB		2				X						X									
2	INF-20160502	WT	G			05/02/16	0757		3				X						X									
3	EFF-20160502	WT	G			05/02/16	0815		3				X						X									
4	EFFDUP-20160502	WT	G			05/02/16	0815		3				X						X									
5	EFFMS-20160502	WT	G			05/02/16	0815		3				X						X									
6	EFFMSD-20160502	WT	G			05/02/16	0815		3				X						X									
7																												
8																												
9																												
10																												
11																												
12																												

Fibers

MATRIX CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	ARCADIS	05/02/16	11:51	Rebekah Lanning-Pace	05/2/16	11:51	4C Y N Y
	FedEx	8/3/16	840	FedEx	8/3/16	840	2.1 Y Y Y
							2.7

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: EW IW

SIGNATURE of SAMPLER:

DATE Signed: 05/02/16

TEMP in C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

Attachment 2
Laboratory Analytical Report

Pace Analytical Services, Inc.
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

May 16, 2016

David Howard
ARCADIS
410 North 44th St.
Suite 1000
Phoenix, AZ 85008

RE: Project: Fibers Public Supply Wells
Pace Project No.: 2036032

Dear David Howard:
Enclosed are the analytical results for sample(s) received by the laboratory on May 03, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Justin L. Stock
justin.stock@pacelabs.com
Project Manager

Enclosures

cc: Janisse Diaz, Arcadis
Cassandra McCloud
Elvin Varela, ARCADIS

Pace Analytical Services, Inc.
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(504)469-0333

CERTIFICATIONS

Project: Fibers Public Supply Wells
Pace Project No.: 2036032

New Orleans Certification IDs

California Env. Lab Accreditation Program Branch: 11277CA
Florida Department of Health (NELAC): E87595
Illinois Environmental Protection Agency: 0025721
Kansas Department of Health and Environment (NELAC): E-10266
Louisiana Dept. of Environmental Quality (NELAC/LELAP): 02006
Pennsylvania Dept. of Env Protection (NELAC): 68-04202
Texas Commission on Env. Quality (NELAC): T104704405-09-TX
U.S. Dept. of Agriculture Foreign Soil Import: P330-10-00119

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

SAMPLE SUMMARY

Project: Fibers Public Supply Wells
Pace Project No.: 2036032

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2036032001	**TB-20160502**	Water	05/02/16 00:00	05/03/16 08:40
2036032002	**INF-20160502**	Water	05/02/16 07:57	05/03/16 08:40
2036032003	**EFF-20160502**	Water	05/02/16 08:15	05/03/16 08:40
2036032004	**EFFDUP-20160502**	Water	05/02/16 08:15	05/03/16 08:40

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SAMPLE ANALYTE COUNT

Project: Fibers Public Supply Wells
Pace Project No.: 2036032

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
2036032001	**TB-20160502**	EPA 5030B/8260	MLS	56	PASI-N
2036032002	**INF-20160502**	EPA 5030B/8260	MLS	56	PASI-N
2036032003	**EFF-20160502**	EPA 5030B/8260	MLS	56	PASI-N
2036032004	**EFFDUP-20160502**	EPA 5030B/8260	MLS	56	PASI-N

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PROJECT NARRATIVE

Project: Fibers Public Supply Wells
Pace Project No.: 2036032

Method: **EPA 5030B/8260**
Description: 8260 MSV HALOETHERS
Client: ARCADIS
Date: May 16, 2016

General Information:
4 samples were analyzed for EPA 5030B/8260. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: MSV/4850

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 2036032003

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 222077)
  - Acrolein
  - Styrene
  - m&p-Xylene
  - o-Xylene
- MSD (Lab ID: 222078)
  - Acrolein
  - Styrene
  - Toluene
  - Vinyl chloride
  - cis-1,3-Dichloropropene
  - m&p-Xylene
  - o-Xylene

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PROJECT NARRATIVE

Project: Fibers Public Supply Wells
Pace Project No.: 2036032

Method: **EPA 5030B/8260**
Description: 8260 MSV HALOETHERS
Client: ARCADIS
Date: May 16, 2016

QC Batch: MSV/4850

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 2036032003

R1: RPD value was outside control limits.

- MSD (Lab ID: 222078)
  - 1,1-Dichloroethene
  - Carbon disulfide
  - Ethylbenzene
  - Toluene
  - Vinyl chloride
  - cis-1,3-Dichloropropene
  - o-Xylene

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

Pace Analytical Services, Inc.
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St. Rose, LA 70087
(504)469-0333

ANALYTICAL RESULTS

Project: Fibers Public Supply Wells
Pace Project No.: 2036032

Sample: TB-20160502 **Lab ID: 2036032001** Collected: 05/02/16 00:00 Received: 05/03/16 08:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Acetone	ND	ug/L	4.0	1		05/04/16 14:01	67-64-1	
Acrolein	ND	ug/L	8.0	1		05/04/16 14:01	107-02-8	
Acrylonitrile	ND	ug/L	4.0	1		05/04/16 14:01	107-13-1	
Benzene	ND	ug/L	1.0	1		05/04/16 14:01	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		05/04/16 14:01	75-27-4	
Bromoform	ND	ug/L	1.0	1		05/04/16 14:01	75-25-2	
Bromomethane	ND	ug/L	1.0	1		05/04/16 14:01	74-83-9	
2-Butanone (MEK)	ND	ug/L	2.0	1		05/04/16 14:01	78-93-3	
Carbon disulfide	ND	ug/L	1.0	1		05/04/16 14:01	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		05/04/16 14:01	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		05/04/16 14:01	108-90-7	
Chloroethane	ND	ug/L	1.0	1		05/04/16 14:01	75-00-3	
Chloroform	ND	ug/L	1.0	1		05/04/16 14:01	67-66-3	
Chloromethane	ND	ug/L	1.0	1		05/04/16 14:01	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	1		05/04/16 14:01	124-48-1	
Dibromomethane	ND	ug/L	1.0	1		05/04/16 14:01	74-95-3	
1,1-Dichloroethane	ND	ug/L	1.0	1		05/04/16 14:01	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		05/04/16 14:01	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		05/04/16 14:01	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		05/04/16 14:01	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		05/04/16 14:01	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		05/04/16 14:01	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		05/04/16 14:01	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		05/04/16 14:01	10061-02-6	
Enflurane	ND	ug/L	1.0	1		05/04/16 14:01	13838-16-9	
Ethylbenzene	ND	ug/L	1.0	1		05/04/16 14:01	100-41-4	
Haloether 229	ND	ug/L	1.0	1		05/04/16 14:01		
Haloether 406	ND	ug/L	1.0	1		05/04/16 14:01		
Haloether 421	ND	ug/L	1.0	1		05/04/16 14:01		
Haloether 427	ND	ug/L	1.0	1		05/04/16 14:01		
Haloether 428	ND	ug/L	1.0	1		05/04/16 14:01		
Haloether 508	ND	ug/L	1.0	1		05/04/16 14:01		
Haloether 528	ND	ug/L	1.0	1		05/04/16 14:01		
Halomar	ND	ug/L	1.0	1		05/04/16 14:01		
2-Hexanone	ND	ug/L	2.0	1		05/04/16 14:01	591-78-6	
Isoflurane	ND	ug/L	1.0	1		05/04/16 14:01		
Methoxyflurane	ND	ug/L	1.0	1		05/04/16 14:01	76-38-0	
Methylene Chloride	ND	ug/L	5.0	1		05/04/16 14:01	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2.0	1		05/04/16 14:01	108-10-1	
Styrene	ND	ug/L	1.0	1		05/04/16 14:01	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		05/04/16 14:01	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		05/04/16 14:01	127-18-4	
Toluene	ND	ug/L	1.0	1		05/04/16 14:01	108-88-3	
Total Haloether	ND	ug/L	1.0	1		05/04/16 14:01		
1,1,1-Trichloroethane	ND	ug/L	1.0	1		05/04/16 14:01	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		05/04/16 14:01	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		05/04/16 14:01	79-01-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

ANALYTICAL RESULTS

Project: Fibers Public Supply Wells
Pace Project No.: 2036032

Sample: TB-20160502 **Lab ID: 2036032001** Collected: 05/02/16 00:00 Received: 05/03/16 08:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Trichlorofluoromethane	ND	ug/L	1.0	1		05/04/16 14:01	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		05/04/16 14:01	96-18-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0	1		05/04/16 14:01	76-13-1	
Vinyl chloride	ND	ug/L	1.0	1		05/04/16 14:01	75-01-4	
m&p-Xylene	ND	ug/L	2.0	1		05/04/16 14:01	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		05/04/16 14:01	95-47-6	
Surrogates								
Toluene-d8 (S)	95	%.	79-119	1		05/04/16 14:01	2037-26-5	
4-Bromofluorobenzene (S)	103	%.	68-124	1		05/04/16 14:01	460-00-4	
Dibromofluoromethane (S)	103	%.	72-126	1		05/04/16 14:01	1868-53-7	

Sample: INF-20160502 **Lab ID: 2036032002** Collected: 05/02/16 07:57 Received: 05/03/16 08:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Acetone	**7.5**	ug/L	4.0	1		05/04/16 14:19	67-64-1	
Acrolein	ND	ug/L	8.0	1		05/04/16 14:19	107-02-8	
Acrylonitrile	ND	ug/L	4.0	1		05/04/16 14:19	107-13-1	
Benzene	ND	ug/L	1.0	1		05/04/16 14:19	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		05/04/16 14:19	75-27-4	
Bromoform	ND	ug/L	1.0	1		05/04/16 14:19	75-25-2	
Bromomethane	ND	ug/L	1.0	1		05/04/16 14:19	74-83-9	
2-Butanone (MEK)	ND	ug/L	2.0	1		05/04/16 14:19	78-93-3	
Carbon disulfide	ND	ug/L	1.0	1		05/04/16 14:19	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		05/04/16 14:19	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		05/04/16 14:19	108-90-7	
Chloroethane	ND	ug/L	1.0	1		05/04/16 14:19	75-00-3	
Chloroform	ND	ug/L	1.0	1		05/04/16 14:19	67-66-3	
Chloromethane	ND	ug/L	1.0	1		05/04/16 14:19	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	1		05/04/16 14:19	124-48-1	
Dibromomethane	ND	ug/L	1.0	1		05/04/16 14:19	74-95-3	
1,1-Dichloroethane	ND	ug/L	1.0	1		05/04/16 14:19	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		05/04/16 14:19	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		05/04/16 14:19	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		05/04/16 14:19	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		05/04/16 14:19	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		05/04/16 14:19	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		05/04/16 14:19	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		05/04/16 14:19	10061-02-6	
Enflurane	**1.9**	ug/L	1.0	1		05/04/16 14:19	13838-16-9	
Ethylbenzene	ND	ug/L	1.0	1		05/04/16 14:19	100-41-4	
Haloether 229	**39.1**	ug/L	1.0	1		05/04/16 14:19		
Haloether 406	**1.2**	ug/L	1.0	1		05/04/16 14:19		
Haloether 421	ND	ug/L	1.0	1		05/04/16 14:19		
Haloether 427	ND	ug/L	1.0	1		05/04/16 14:19		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

ANALYTICAL RESULTS

Project: Fibers Public Supply Wells
Pace Project No.: 2036032

Sample: INF-20160502 **Lab ID: 2036032002** Collected: 05/02/16 07:57 Received: 05/03/16 08:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Haloether 428	ND	ug/L	1.0	1		05/04/16 14:19		
Haloether 508	**59.3**	ug/L	1.0	1		05/04/16 14:19		
Haloether 528	**1.6**	ug/L	1.0	1		05/04/16 14:19		
Halomar	**1.3**	ug/L	1.0	1		05/04/16 14:19		
2-Hexanone	ND	ug/L	2.0	1		05/04/16 14:19	591-78-6	
Isoflurane	**145**	ug/L	1.0	1		05/04/16 14:19		
Methoxyflurane	ND	ug/L	1.0	1		05/04/16 14:19	76-38-0	
Methylene Chloride	ND	ug/L	5.0	1		05/04/16 14:19	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2.0	1		05/04/16 14:19	108-10-1	
Styrene	ND	ug/L	1.0	1		05/04/16 14:19	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		05/04/16 14:19	79-34-5	
Tetrachloroethene	**7.1**	ug/L	1.0	1		05/04/16 14:19	127-18-4	
Toluene	ND	ug/L	1.0	1		05/04/16 14:19	108-88-3	
Total Haloether	**249**	ug/L	1.0	1		05/04/16 14:19		
1,1,1-Trichloroethane	ND	ug/L	1.0	1		05/04/16 14:19	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		05/04/16 14:19	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		05/04/16 14:19	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		05/04/16 14:19	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		05/04/16 14:19	96-18-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0	1		05/04/16 14:19	76-13-1	
Vinyl chloride	ND	ug/L	1.0	1		05/04/16 14:19	75-01-4	
m&p-Xylene	ND	ug/L	2.0	1		05/04/16 14:19	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		05/04/16 14:19	95-47-6	
Surrogates								
Toluene-d8 (S)	100	%.	79-119	1		05/04/16 14:19	2037-26-5	
4-Bromofluorobenzene (S)	106	%.	68-124	1		05/04/16 14:19	460-00-4	
Dibromofluoromethane (S)	101	%.	72-126	1		05/04/16 14:19	1868-53-7	

Sample: EFF-20160502 **Lab ID: 2036032003** Collected: 05/02/16 08:15 Received: 05/03/16 08:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Acetone	**12.4**	ug/L	4.0	1		05/04/16 11:04	67-64-1	
Acrolein	ND	ug/L	8.0	1		05/04/16 11:04	107-02-8	M1
Acrylonitrile	ND	ug/L	4.0	1		05/04/16 11:04	107-13-1	
Benzene	ND	ug/L	1.0	1		05/04/16 11:04	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		05/04/16 11:04	75-27-4	
Bromoform	ND	ug/L	1.0	1		05/04/16 11:04	75-25-2	
Bromomethane	ND	ug/L	1.0	1		05/04/16 11:04	74-83-9	
2-Butanone (MEK)	ND	ug/L	2.0	1		05/04/16 11:04	78-93-3	
Carbon disulfide	ND	ug/L	1.0	1		05/04/16 11:04	75-15-0	R1
Carbon tetrachloride	ND	ug/L	1.0	1		05/04/16 11:04	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		05/04/16 11:04	108-90-7	
Chloroethane	ND	ug/L	1.0	1		05/04/16 11:04	75-00-3	
Chloroform	ND	ug/L	1.0	1		05/04/16 11:04	67-66-3	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

ANALYTICAL RESULTS

Project: Fibers Public Supply Wells
Pace Project No.: 2036032

Sample: EFF-20160502 **Lab ID: 2036032003** Collected: 05/02/16 08:15 Received: 05/03/16 08:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Chloromethane	ND	ug/L	1.0	1		05/04/16 11:04	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	1		05/04/16 11:04	124-48-1	
Dibromomethane	ND	ug/L	1.0	1		05/04/16 11:04	74-95-3	
1,1-Dichloroethane	ND	ug/L	1.0	1		05/04/16 11:04	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		05/04/16 11:04	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		05/04/16 11:04	75-35-4	R1
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		05/04/16 11:04	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		05/04/16 11:04	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		05/04/16 11:04	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		05/04/16 11:04	10061-01-5	M1,R1
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		05/04/16 11:04	10061-02-6	
Enflurane	ND	ug/L	1.0	1		05/04/16 11:04	13838-16-9	
Ethylbenzene	ND	ug/L	1.0	1		05/04/16 11:04	100-41-4	R1
Haloether 229	ND	ug/L	1.0	1		05/04/16 11:04		
Haloether 406	ND	ug/L	1.0	1		05/04/16 11:04		
Haloether 421	ND	ug/L	1.0	1		05/04/16 11:04		
Haloether 427	ND	ug/L	1.0	1		05/04/16 11:04		
Haloether 428	ND	ug/L	1.0	1		05/04/16 11:04		
Haloether 508	ND	ug/L	1.0	1		05/04/16 11:04		
Haloether 528	ND	ug/L	1.0	1		05/04/16 11:04		
Halomar	ND	ug/L	1.0	1		05/04/16 11:04		
2-Hexanone	ND	ug/L	2.0	1		05/04/16 11:04	591-78-6	
Isoflurane	ND	ug/L	1.0	1		05/04/16 11:04		
Methoxyflurane	ND	ug/L	1.0	1		05/04/16 11:04	76-38-0	
Methylene Chloride	ND	ug/L	5.0	1		05/04/16 11:04	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2.0	1		05/04/16 11:04	108-10-1	
Styrene	ND	ug/L	1.0	1		05/04/16 11:04	100-42-5	M1
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		05/04/16 11:04	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		05/04/16 11:04	127-18-4	
Toluene	ND	ug/L	1.0	1		05/04/16 11:04	108-88-3	M1,R1
Total Haloether	ND	ug/L	1.0	1		05/04/16 11:04		
1,1,1-Trichloroethane	ND	ug/L	1.0	1		05/04/16 11:04	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		05/04/16 11:04	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		05/04/16 11:04	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		05/04/16 11:04	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		05/04/16 11:04	96-18-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0	1		05/04/16 11:04	76-13-1	
Vinyl chloride	ND	ug/L	1.0	1		05/04/16 11:04	75-01-4	M1,R1
m&p-Xylene	ND	ug/L	2.0	1		05/04/16 11:04	179601-23-1	M1
o-Xylene	ND	ug/L	1.0	1		05/04/16 11:04	95-47-6	M1,R1
Surrogates								
Toluene-d8 (S)	93	%.	79-119	1		05/04/16 11:04	2037-26-5	
4-Bromofluorobenzene (S)	104	%.	68-124	1		05/04/16 11:04	460-00-4	
Dibromofluoromethane (S)	102	%.	72-126	1		05/04/16 11:04	1868-53-7	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

ANALYTICAL RESULTS

Project: Fibers Public Supply Wells
Pace Project No.: 2036032

Sample: EFFDUP-20160502 **Lab ID: 2036032004** Collected: 05/02/16 08:15 Received: 05/03/16 08:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Acetone	**15.6**	ug/L	4.0	1		05/04/16 14:37	67-64-1	
Acrolein	ND	ug/L	8.0	1		05/04/16 14:37	107-02-8	
Acrylonitrile	ND	ug/L	4.0	1		05/04/16 14:37	107-13-1	
Benzene	ND	ug/L	1.0	1		05/04/16 14:37	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		05/04/16 14:37	75-27-4	
Bromoform	ND	ug/L	1.0	1		05/04/16 14:37	75-25-2	
Bromomethane	ND	ug/L	1.0	1		05/04/16 14:37	74-83-9	
2-Butanone (MEK)	ND	ug/L	2.0	1		05/04/16 14:37	78-93-3	
Carbon disulfide	ND	ug/L	1.0	1		05/04/16 14:37	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		05/04/16 14:37	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		05/04/16 14:37	108-90-7	
Chloroethane	ND	ug/L	1.0	1		05/04/16 14:37	75-00-3	
Chloroform	ND	ug/L	1.0	1		05/04/16 14:37	67-66-3	
Chloromethane	ND	ug/L	1.0	1		05/04/16 14:37	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	1		05/04/16 14:37	124-48-1	
Dibromomethane	ND	ug/L	1.0	1		05/04/16 14:37	74-95-3	
1,1-Dichloroethane	ND	ug/L	1.0	1		05/04/16 14:37	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		05/04/16 14:37	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		05/04/16 14:37	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		05/04/16 14:37	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		05/04/16 14:37	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		05/04/16 14:37	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		05/04/16 14:37	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		05/04/16 14:37	10061-02-6	
Enflurane	ND	ug/L	1.0	1		05/04/16 14:37	13838-16-9	
Ethylbenzene	ND	ug/L	1.0	1		05/04/16 14:37	100-41-4	
Haloether 229	ND	ug/L	1.0	1		05/04/16 14:37		
Haloether 406	ND	ug/L	1.0	1		05/04/16 14:37		
Haloether 421	ND	ug/L	1.0	1		05/04/16 14:37		
Haloether 427	ND	ug/L	1.0	1		05/04/16 14:37		
Haloether 428	ND	ug/L	1.0	1		05/04/16 14:37		
Haloether 508	ND	ug/L	1.0	1		05/04/16 14:37		
Haloether 528	ND	ug/L	1.0	1		05/04/16 14:37		
Halomar	ND	ug/L	1.0	1		05/04/16 14:37		
2-Hexanone	ND	ug/L	2.0	1		05/04/16 14:37	591-78-6	
Isoflurane	ND	ug/L	1.0	1		05/04/16 14:37		
Methoxyflurane	ND	ug/L	1.0	1		05/04/16 14:37	76-38-0	
Methylene Chloride	ND	ug/L	5.0	1		05/04/16 14:37	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2.0	1		05/04/16 14:37	108-10-1	
Styrene	ND	ug/L	1.0	1		05/04/16 14:37	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		05/04/16 14:37	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		05/04/16 14:37	127-18-4	
Toluene	ND	ug/L	1.0	1		05/04/16 14:37	108-88-3	
Total Haloether	ND	ug/L	1.0	1		05/04/16 14:37		
1,1,1-Trichloroethane	ND	ug/L	1.0	1		05/04/16 14:37	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		05/04/16 14:37	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		05/04/16 14:37	79-01-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

ANALYTICAL RESULTS

Project: Fibers Public Supply Wells
Pace Project No.: 2036032

Sample: EFFDUP-20160502 **Lab ID: 2036032004** Collected: 05/02/16 08:15 Received: 05/03/16 08:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Trichlorofluoromethane	ND	ug/L	1.0	1		05/04/16 14:37	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		05/04/16 14:37	96-18-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0	1		05/04/16 14:37	76-13-1	
Vinyl chloride	ND	ug/L	1.0	1		05/04/16 14:37	75-01-4	
m&p-Xylene	ND	ug/L	2.0	1		05/04/16 14:37	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		05/04/16 14:37	95-47-6	
Surrogates								
Toluene-d8 (S)	92	%.	79-119	1		05/04/16 14:37	2037-26-5	
4-Bromofluorobenzene (S)	103	%.	68-124	1		05/04/16 14:37	460-00-4	
Dibromofluoromethane (S)	100	%.	72-126	1		05/04/16 14:37	1868-53-7	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

QUALITY CONTROL DATA

Project: Fibers Public Supply Wells
Pace Project No.: 2036032

QC Batch: MSV/4850 Analysis Method: EPA 5030B/8260
QC Batch Method: EPA 5030B/8260 Analysis Description: 8260 MSV
Associated Lab Samples: 2036032001, 2036032002, 2036032003, 2036032004

METHOD BLANK: 222075 Matrix: Water
Associated Lab Samples: 2036032001, 2036032002, 2036032003, 2036032004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	05/04/16 09:30	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	05/04/16 09:30	
1,1,2-Trichloroethane	ug/L	ND	1.0	05/04/16 09:30	
1,1,2-Trichlorotrifluoroethane	ug/L	ND	1.0	05/04/16 09:30	
1,1-Dichloroethane	ug/L	ND	1.0	05/04/16 09:30	
1,1-Dichloroethene	ug/L	ND	1.0	05/04/16 09:30	
1,2,3-Trichloropropane	ug/L	ND	1.0	05/04/16 09:30	
1,2-Dichloroethane	ug/L	ND	1.0	05/04/16 09:30	
1,2-Dichloropropane	ug/L	ND	1.0	05/04/16 09:30	
2-Butanone (MEK)	ug/L	ND	2.0	05/04/16 09:30	
2-Hexanone	ug/L	ND	2.0	05/04/16 09:30	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	2.0	05/04/16 09:30	
Acetone	ug/L	ND	4.0	05/04/16 09:30	
Acrolein	ug/L	ND	8.0	05/04/16 09:30	
Acrylonitrile	ug/L	ND	4.0	05/04/16 09:30	
Benzene	ug/L	ND	1.0	05/04/16 09:30	
Bromodichloromethane	ug/L	ND	1.0	05/04/16 09:30	
Bromoform	ug/L	ND	1.0	05/04/16 09:30	
Bromomethane	ug/L	ND	1.0	05/04/16 09:30	
Carbon disulfide	ug/L	ND	1.0	05/04/16 09:30	
Carbon tetrachloride	ug/L	ND	1.0	05/04/16 09:30	
Chlorobenzene	ug/L	ND	1.0	05/04/16 09:30	
Chloroethane	ug/L	ND	1.0	05/04/16 09:30	
Chloroform	ug/L	ND	1.0	05/04/16 09:30	
Chloromethane	ug/L	ND	1.0	05/04/16 09:30	
cis-1,2-Dichloroethene	ug/L	ND	1.0	05/04/16 09:30	
cis-1,3-Dichloropropene	ug/L	ND	1.0	05/04/16 09:30	
Dibromochloromethane	ug/L	ND	1.0	05/04/16 09:30	
Dibromomethane	ug/L	ND	1.0	05/04/16 09:30	
Enflurane	ug/L	ND	1.0	05/04/16 09:30	
Ethylbenzene	ug/L	ND	1.0	05/04/16 09:30	
Haloether 229	ug/L	ND	1.0	05/04/16 09:30	
Haloether 406	ug/L	ND	1.0	05/04/16 09:30	
Haloether 421	ug/L	ND	1.0	05/04/16 09:30	
Haloether 427	ug/L	ND	1.0	05/04/16 09:30	
Haloether 428	ug/L	ND	1.0	05/04/16 09:30	
Haloether 508	ug/L	ND	1.0	05/04/16 09:30	
Haloether 528	ug/L	ND	1.0	05/04/16 09:30	
Halomar	ug/L	ND	1.0	05/04/16 09:30	
Isoflurane	ug/L	ND	1.0	05/04/16 09:30	
m&p-Xylene	ug/L	ND	2.0	05/04/16 09:30	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

QUALITY CONTROL DATA

Project: Fibers Public Supply Wells
Pace Project No.: 2036032

METHOD BLANK: 222075 Matrix: Water
Associated Lab Samples: 2036032001, 2036032002, 2036032003, 2036032004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Methoxyflurane	ug/L	ND	1.0	05/04/16 09:30	
Methylene Chloride	ug/L	ND	5.0	05/04/16 09:30	
o-Xylene	ug/L	ND	1.0	05/04/16 09:30	
Styrene	ug/L	ND	1.0	05/04/16 09:30	
Tetrachloroethene	ug/L	ND	1.0	05/04/16 09:30	
Toluene	ug/L	ND	1.0	05/04/16 09:30	
Total Haloether	ug/L	ND	1.0	05/04/16 09:30	
trans-1,2-Dichloroethene	ug/L	ND	1.0	05/04/16 09:30	
trans-1,3-Dichloropropene	ug/L	ND	1.0	05/04/16 09:30	
Trichloroethene	ug/L	ND	1.0	05/04/16 09:30	
Trichlorofluoromethane	ug/L	ND	1.0	05/04/16 09:30	
Vinyl chloride	ug/L	ND	1.0	05/04/16 09:30	
4-Bromofluorobenzene (S)	%.	103	68-124	05/04/16 09:30	
Dibromofluoromethane (S)	%.	102	72-126	05/04/16 09:30	
Toluene-d8 (S)	%.	96	79-119	05/04/16 09:30	

LABORATORY CONTROL SAMPLE: 222076

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	50	46.1	92	62-131	
1,1,2,2-Tetrachloroethane	ug/L	50	47.4	95	15-179	
1,1,2-Trichloroethane	ug/L	50	45.6	91	58-144	
1,1,2-Trichlorotrifluoroethane	ug/L	50	42.1	84	38-121	
1,1-Dichloroethane	ug/L	50	43.7	87	63-129	
1,1-Dichloroethene	ug/L	50	43.1	86	51-139	
1,2,3-Trichloropropane	ug/L	50	49.6	99	13-187	
1,2-Dichloroethane	ug/L	50	43.2	86	57-148	
1,2-Dichloropropane	ug/L	50	43.1	86	66-128	
2-Butanone (MEK)	ug/L	50	44.8	90	32-183	
2-Hexanone	ug/L	50	47.5	95	36-170	
4-Methyl-2-pentanone (MIBK)	ug/L	50	44.7	89	26-171	
Acetone	ug/L	50	45.1	90	22-165	
Acrolein	ug/L	100	84.5	85	10-131	
Acrylonitrile	ug/L	50	42.3	85	18-149	
Benzene	ug/L	50	45.2	90	62-131	
Bromodichloromethane	ug/L	50	40.9	82	69-132	
Bromoform	ug/L	50	43.1	86	35-166	
Bromomethane	ug/L	50	50.9	102	34-158	
Carbon disulfide	ug/L	50	42.5	85	31-128	
Carbon tetrachloride	ug/L	50	45.6	91	54-144	
Chlorobenzene	ug/L	50	49.7	99	70-127	
Chloroethane	ug/L	50	37.7	75	17-195	
Chloroform	ug/L	50	40.6	81	73-134	
Chloromethane	ug/L	50	46.2	92	17-153	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

QUALITY CONTROL DATA

Project: Fibers Public Supply Wells
Pace Project No.: 2036032

LABORATORY CONTROL SAMPLE: 222076

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
cis-1,2-Dichloroethene	ug/L	50	44.0	88	68-129	
cis-1,3-Dichloropropene	ug/L	50	42.9	86	72-138	
Dibromochloromethane	ug/L	50	44.5	89	49-146	
Dibromomethane	ug/L	50	43.6	87	56-145	
Enflurane	ug/L	50	48.9	98	56-135	
Ethylbenzene	ug/L	50	49.9	100	66-126	
Haloether 229	ug/L	50	49.4	99	62-123	
Haloether 406	ug/L	50	40.7	81	62-134	
Haloether 421	ug/L	50	43.4	87	70-128	
Haloether 427	ug/L	50	46.8	94	69-153	
Haloether 428	ug/L	50	47.1	94	70-134	
Haloether 508	ug/L	50	48.8	98	52-139	
Haloether 528	ug/L	50	43.5	87	48-157	
Halomar	ug/L	50	45.2	90	62-128	
Isoflurane	ug/L	50	47.8	96	61-132	
m&p-Xylene	ug/L	100	100	100	65-129	
Methoxyflurane	ug/L	50	45.2	90	72-124	
Methylene Chloride	ug/L	50	44.3	89	46-168	
o-Xylene	ug/L	50	49.2	98	65-124	
Styrene	ug/L	50	51.0	102	72-133	
Tetrachloroethene	ug/L	50	50.6	101	46-157	
Toluene	ug/L	50	46.0	92	69-126	
Total Haloether	ug/L		507			
trans-1,2-Dichloroethene	ug/L	50	44.4	89	60-129	
trans-1,3-Dichloropropene	ug/L	50	44.3	89	59-149	
Trichloroethene	ug/L	50	46.8	94	67-132	
Trichlorofluoromethane	ug/L	50	54.7	109	39-171	
Vinyl chloride	ug/L	50	42.9	86	27-149	
4-Bromofluorobenzene (S)	%.			104	68-124	
Dibromofluoromethane (S)	%.			100	72-126	
Toluene-d8 (S)	%.			96	79-119	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 222077 222078

Parameter	Units	2036032003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1-Trichloroethane	ug/L	ND	50	50	57.9	49.0	116	98	54-137	17	20	
1,1,2,2-Tetrachloroethane	ug/L	ND	50	50	53.3	45.5	107	91	15-187	16	20	
1,1,2-Trichloroethane	ug/L	ND	50	50	52.7	46.9	105	94	59-148	12	20	
1,1,2-Trichlorotrifluoroethane	ug/L	ND	50	50	50.4	44.5	101	89	40-117	12	20	
1,1-Dichloroethane	ug/L	ND	50	50	52.3	43.3	105	87	59-133	19	20	
1,1-Dichloroethene	ug/L	ND	50	50	50.2	36.7	100	73	44-146	31	20	R1
1,2,3-Trichloropropane	ug/L	ND	50	50	53.5	47.9	107	96	14-199	11	20	
1,2-Dichloroethane	ug/L	ND	50	50	49.3	44.3	99	89	56-154	11	20	
1,2-Dichloropropane	ug/L	ND	50	50	51.1	44.1	102	88	62-135	15	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

QUALITY CONTROL DATA

Project: Fibers Public Supply Wells
Pace Project No.: 2036032

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 222077 222078

Parameter	Units	2036032003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
2-Butanone (MEK)	ug/L	ND	50	50	51.7	44.2	103	88	20-205	16	20	
2-Hexanone	ug/L	ND	50	50	55.0	47.3	110	95	25-189	15	20	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	50	50	53.2	47.4	106	95	23-184	11	20	
Acetone	ug/L	12.4	50	50	80.5	68.0	136	111	11-217	17	20	
Acrolein	ug/L	ND	100	100	8.3	5.3J	8	5	10-142		20	M1
Acrylonitrile	ug/L	ND	50	50	47.5	41.9	95	84	20-164	12	20	
Benzene	ug/L	ND	50	50	53.9	47.3	108	95	52-141	13	20	
Bromodichloromethane	ug/L	ND	50	50	48.2	41.8	96	84	70-134	14	20	
Bromoform	ug/L	ND	50	50	51.8	47.9	103	95	37-171	8	20	
Bromomethane	ug/L	ND	50	50	59.1	50.5	118	101	34-155	16	20	
Carbon disulfide	ug/L	ND	50	50	57.4	43.9	115	88	28-130	27	20	R1
Carbon tetrachloride	ug/L	ND	50	50	55.6	47.0	111	94	48-146	17	20	
Chlorobenzene	ug/L	ND	50	50	61.4	55.3	123	111	67-129	10	20	
Chloroethane	ug/L	ND	50	50	46.1	40.3	92	81	12-192	13	20	
Chloroform	ug/L	ND	50	50	49.2	43.6	98	87	66-143	12	20	
Chloromethane	ug/L	ND	50	50	68.3	59.5	136	118	14-155	14	20	
cis-1,2-Dichloroethene	ug/L	ND	50	50	54.1	47.4	108	95	56-141	13	20	
cis-1,3-Dichloropropene	ug/L	ND	50	50	42.5	34.2	85	68	70-139	21	20	M1,R1
Dibromochloromethane	ug/L	ND	50	50	53.9	50.5	108	101	50-150	6	20	
Dibromomethane	ug/L	ND	50	50	51.2	46.0	102	92	58-153	11	20	
Enflurane	ug/L	ND	50	50	59.0	51.5	118	103	63-126	14	20	
Ethylbenzene	ug/L	ND	50	50	42.6	32.8	85	66	57-135	26	20	R1
Haloether 229	ug/L	ND	50	50	62.2	53.5	124	107	56-127	15	20	
Haloether 406	ug/L	ND	50	50	46.2	48.1	92	96	68-128	4	20	
Haloether 421	ug/L	ND	50	50	52.5	44.0	105	88	74-120	18	20	
Haloether 427	ug/L	ND	50	50	58.0	48.8	116	98	78-120	17	20	
Haloether 428	ug/L	ND	50	50	55.9	49.6	112	99	74-125	12	20	
Haloether 508	ug/L	ND	50	50	58.2	49.1	116	98	28-156	17	20	
Haloether 528	ug/L	ND	50	50	53.1	45.6	106	91	45-142	15	20	
Halomar	ug/L	ND	50	50	53.1	46.5	106	93	67-123	13	20	
Isoflurane	ug/L	ND	50	50	56.5	49.6	112	99	45-140	13	20	
m&p-Xylene	ug/L	ND	100	100	2.9	ND	3	1	56-136		20	M1
Methoxyflurane	ug/L	ND	50	50	51.9	45.8	104	92	75-119	12	20	
Methylene Chloride	ug/L	ND	50	50	53.0	47.1	106	94	45-166	12	20	
o-Xylene	ug/L	ND	50	50	5.6	2.3	11	5	57-133	83	20	M1,R1
Styrene	ug/L	ND	50	50	ND	ND	0	0	58-144		20	M1
Tetrachloroethene	ug/L	ND	50	50	63.5	56.5	127	113	48-143	12	20	
Toluene	ug/L	ND	50	50	35.5	26.1	71	52	59-136	30	20	M1,R1
Total Haloether	ug/L	ND			607	532				13		
trans-1,2-Dichloroethene	ug/L	ND	50	50	55.6	46.5	111	93	57-132	18	20	
trans-1,3-Dichloropropene	ug/L	ND	50	50	43.9	36.3	88	73	59-154	19	20	
Trichloroethene	ug/L	ND	50	50	57.3	50.4	115	101	58-140	13	20	
Trichlorofluoromethane	ug/L	ND	50	50	67.8	55.8	136	112	24-175	19	20	
Vinyl chloride	ug/L	ND	50	50	12.5	6.1	25	12	21-150	69	20	M1,R1
4-Bromofluorobenzene (S)	%.						100	102	68-124			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

QUALITY CONTROL DATA

Project: Fibers Public Supply Wells
Pace Project No.: 2036032

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 222077 222078

Parameter	Units	2036032003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Dibromofluoromethane (S)	%.						101	101	72-126			
Toluene-d8 (S)	%.						94	95	79-119			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

QUALIFIERS

Project: Fibers Public Supply Wells
Pace Project No.: 2036032

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The Nelac Institute

LABORATORIES

PASI-N	Pace Analytical Services - New Orleans

ANALYTE QUALIFIERS

M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
R1	RPD value was outside control limits.

Pace Analytical Services, Inc.
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Fibers Public Supply Wells
Pace Project No.: 2036032

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2036032001	**TB-20160502**	EPA 5030B/8260	MSV/4850		
2036032002	**INF-20160502**	EPA 5030B/8260	MSV/4850		
2036032003	**EFF-20160502**	EPA 5030B/8260	MSV/4850		
2036032004	**EFFDUP-20160502**	EPA 5030B/8260	MSV/4850		

Pace Analytical

CHAIN-OF-CUSTODY

The Chain-of-Custody is a LEGAL

WO# : 2036032

2036032

Page : 1 Of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	ARCADIS U.S., Inc.	Report To:	David Howard	Attention:	Accounts Payable
Address:	410 North 44th St., Suite 1000	Copy To:	Cassandra McCloud	Company Name:	ARCADIS
	Phoenix, AZ 85008		cassandra.mccloud@arcadis-us.com	Address:	
Email To:	david.howard@arcadis-us.com	Purchase Order #:	CO001911.0003 1602A	Pace Quote:	
Phone:	602.797.4518 Fax:	Project Name:	Fibers Public Supply Wells	Pace Project Manager:	justin.stock@pacelabs.com
Requested Due Date:		Project #:	CO001911.0003 1602A	Pace Profile #:	10374 6

Regulatory Agency: CERCLA

State / Location: PR

Requested Analysis Filtered (Y/N)

SAMPLE ID
One Character per box.
(A-Z, 0-9 / , -)
Sample Ids must be unique

MATRIX CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analyses Test Y/N	EPA 8260B Haloalkanes	SM 2320B Alkalinity	SM 5310B TOC	ASTM D516,90,02 Sulfate	EPA 6010 Dissolved Metals (Fe, Mn)	EPA 6010 Total Metals (Fe, Mn)	RSK 175 Methane		EPA 300.0 Chloride			Residual Chlorine (Y/N)	Comments
1	TB-20160502	WT	G	—	—	05/02/16	LAB		2				X						X												
2	INF-20160502	WT	G	—	—	05/02/16	0757		3				X						X												
3	EFF-20160502	WT	G	—	—	05/02/16	0815		3				X						X												
4	EFFDUP-20160502	WT	G	—	—	05/02/16	0815		3				X						X												
5	EFFMS-20160502	WT	G	—	—	05/02/16	0815		3				X						X												
6	EFFMSD-20160502	WT	G	—	—	05/02/16	0815		3				X						X												
7																															
8																															
9																															
10																															
11																															
12																															

Fibers

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	ARCADIS	05/02/16	11:51	Rebekah Lagunas-Pace	05/02/16	11:51	4C	Y	N	Y
	FedEx	5/2/16	1811	Pace	5/3/16	840	2.1	Y	Y	Y
	FedEx	5/3/16	840	FedEx	↓	↓	2.7			

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: EW IW

SIGNATURE of SAMPLER:

DATE Signed: 05/02/16

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

Pace Analytical

1000 Riverbend. Blvd., Suite F
St. Rose, LA 70087

Sample Condition Upon

Pr

WO# : 2036032

PM: JLS **Due Date: 05/17/16**

CLIENT: 20-CHEV-ARC

Courier: ☐ Pace Courier ☐ Hired Courier ☒ Fed X ☐ UPS ☐ DHL ☐ USPS ☐ Customer ☐ Other

Custody Seal on Cooler/Box Present: [see COC] **Custody Seals intact:** ☒Yes ☐No

Therometer Used: ☐ Therm Fisher IR 5 ☐ Therm Fisher IR 6 ☒ Therm Fisher IR 7

Type of Ice: (Wet) Blue None

Samples on ice: [see COC]

Cooler Temperature: [see COC]

Temp should be above freezing to 6°C

Date and Initials of person examining contents: 05-03-16 MD

Temp must be measured from Temperature blank when present

				Comments:
Temperature Blank Present"?	☐Yes	☐No	☒N/A	1
Chain of Custody Present:	☒Yes	☐No	☐N/A	2
Chain of Custody Complete:	☒Yes	☐No	☐N/A	3
Chain of Custody Relinquished:	☒Yes	☐No	☐N/A	4
Sampler Name & Signature on COC:	☒Yes	☐No	☐N/A	5
Samples Arrived within Hold Time:	☒Yes	☐No	☐N/A	6
Sufficient Volume:	☒Yes	☐No	☐N/A	7
Correct Containers Used:	☒Yes	☐No	☐N/A	8
Filtered vol. Rec. for Diss. tests	☐Yes	☐No	☒N/A	9
Sample Labels match COC:	☒Yes	☐No	☐N/A	10
All containers received within manafacture's precautionary and/or expiration dates.	☒Yes	☐No	☐N/A	11
All containers needing chemical preservation have been checked (except VOA, coliform, & O&G).	☐Yes	☐No	☒N/A	12
All containers preservation checked found to be in compliance with EPA recommendation.	☐Yes	☐No	☒N/A	13 If No, was preserative added? ☐Yes ☐No If added record lot no.: HNO3 _____ H2SO4 _____
Headspace in VOA Vials (>6mm):	☐Yes	☒No	☐N/A	14
Trip Blank Present:	☒Yes	☐No		15

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Attachment 3
Sampling and Monitoring Field Form

ARCADIS Design & Consultancy for natural and built assets

Groundwater Extraction and Treatment System (GWETS) Sampling and Monitoring Field Form
Fibers Public Supply Wells Superfund Site
Guayama, Puerto Rico

Collection Date	Sample ID	Collection Time	Sampler's Initials
05/02/16	TB-20160502	LAB	EVB
05/02/16	INF-20160502	0757	EVB
05/02/16	EFF-20160502	0815	EVB
05/02/16	EFFDUP-20160502	0815	EVB
05/02/16	EFFMS-20160502	0815	EVB
05/02/16	EFFMSD-20160502	0815	EVB

GWETS Operational Data at Sample Collection

Extraction Wells

RW-2	115.9	gpm
RW-4	129.8	gpm
RW-5	46.9	gpm

Compound Treatment System

Influent Flow Rate (FIT-101)	318.6	gpm
Effluent Flow Rate (FIT-301)	311.7	gpm
Blower (FIT-201A)	1971	scfm
Influent Flow Pressure (PIT-101)	3.1	psi
Effluent Flow Pressure (PIT-301)	19.5	psi
pH (pHIT-201A)	8.0	

Notes:
gpm = gallons per minute
cfm = cubic feet per minute
psi = pounds per square inch